

**PATENT APPLICATION**  
**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Docket No: 06005/38043A

**PATENT APPLICATION TRANSMITTAL UNDER 37 C.F.R. 1.53**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450



Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Ashish Mehta, Peter Wojsznis, Wilhelm K. Wojsznis, Terrence L. Blevins, Dirk Thiele, and Ron Ottenbacher

Title: Integrated Model Predictive Control and Optimization within a Process Control System

**1. Type of Application**

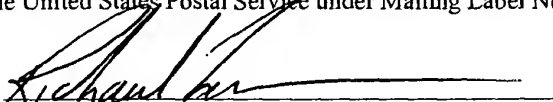
- ☒ This is a new application for a
- ☒ utility patent.
- ☐ design patent.
- ☒ This is a continuation-in-part application of prior application no. 10/310,416, which is a continuation of prior application no. 10/241,350.

**2. Application Papers Enclosed**

- 1 Title Page
- 41 Pages of Specification (excluding Claims, Abstract, Sequence Listing & Drawings)
- 12 Page(s) of Claims
- 1 Page(s) of Abstract
- 18 Sheet(s) of Drawings (Figs. 1 to 18)
- ☐ Formal
- ☒ Informal
- 0 Page(s) of Sequence Listing

**CERTIFICATION UNDER 37 CFR 1.10**

I hereby certify that this Patent Application Transmittal and the documents referred to as enclosed therewith are being deposited with the United States Postal Service on July 25, 2003, in an envelope addressed to the Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 utilizing the "Express Mail Post Office to Addressee" service of the United States Postal Service under Mailing Label No. EV 323 774 801 US.

  
Richard Zimmerman

**3. Declaration or Oath**

- ☐ Enclosed
- ☐ Executed by (check all applicable boxes)
- ☐ Inventor(s)
- ☐ Legal representative of inventor(s)  
(37 CFR 1.42 or 1.43)
- ☐ Joint inventor or person showing a proprietary interest on behalf of  
inventor who refused to sign or cannot be reached
- ☐ The petition required by 37 CFR 1.47 and the statement  
required by 37 CFR 1.47 are enclosed. See Item 5D  
below for fee.
- ☒ Not enclosed - the undersigned attorney or agent is authorized to file this application  
on behalf of the applicant(s). An executed declaration will follow.

**4. Small Entity Status**

- ☐ Applicant claims small entity status. See 37 CFR 1.27.
- ☐ A small entity statement is(are) attached.

**5. Additional Papers Enclosed**

- ☐ Preliminary Amendment
- ☐ Information Disclosure Statement
- ☐ Declaration of Biological Deposit
- ☐ Computer readable copy of sequence listing containing nucleotide and/or amino  
acid sequence
- ☐ Microfiche computer program
- ☐ Associate Power of Attorney
- ☐ Verified translation of a non-English patent application
- ☐ An assignment of the invention
- ☐ Request and Certification Under 35 U.S.C. 122(b)(2)(B)(i)
- ☒ Return receipt postcard
- ☒ Other: Application Data Sheet (3 pages)

6. **Priority Applications Under 35 USC 119**

Certified copies of applications from which priority under 35 USC 119 is claimed are listed below and

- ☐ are attached.  
☐ will follow.

COUNTRY	APPLICATION NO.	FILED

7. **Filing Fee Calculation (37 CFR 1.16)**

- A. ☒ **Utility Application**

CLAIMS AS FILED - INCLUDING PRELIMINARY AMENDMENT(S) (IF ANY)						
			SMALL ENTITY		OTHER THAN A SMALL ENTITY	
	NO. FILED	NO. EXTRA	RATE	FEE	RATE	FEE
BASIC FEE				\$375.00		\$750.00
TOTAL	35 - 20	= 15	X 9 =	\$0.00	X 18 =	\$270.00
INDEP.	8 - 3	= 5	X 42 =	\$0.00	X 84 =	\$420.00
First Presentation of Multiple Dependent Claim			+ 140 =	\$0.00	+ 280 =	\$0.00
Filing Fee:				\$0.00	OR	\$1,440.00

B. ☐ **Design Application (\$165.00/\$330.00)** Filing Fee: \$

C. ☐ **Plant Application (\$255.00/\$510.00)** Filing Fee: \$

D. **Other Fees**

☐ Recording Assignment [Fee — \$40.00 per assignment] \$

☐ Petition fee for filing by other than all the inventors  
or person on behalf of the inventor where inventor refused to sign  
or cannot be reached [Fee — \$130.00] \$

☐ Other \$

**Total Fees Enclosed \$0.00**

**8. Method of Payment of Fees**

☒ Enclosed check in the amount of: \$1,440.00

☐ Charge Deposit Account No. 13-2855 in the amount of: \$  
A copy of this Transmittal is enclosed.

☐ Not enclosed

**9. Deposit Account and Refund Authorization**

The Commissioner is hereby authorized to charge any deficiency in the amount enclosed or any additional fees which may be required during the pendency of this application under 37 CFR 1.16 or 37 CFR 1.17 or under other applicable rules (except payment of issue fees), to Deposit Account No. 13-2855. A copy of this Transmittal is enclosed.

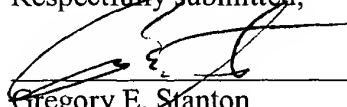
Please refund any overpayment to Marshall, Gerstein & Borun at the address below.

**10. Correspondence Address**

Customer No.: 04743

Respectfully submitted,

By:

  
Gregory E. Stanton

Reg. No: 45,127

MARSHALL, GERSTEIN & BORUN

6300 Sears Tower

233 South Wacker Drive

Chicago, Illinois 60606-6357

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July 25, 2003

13049 U.S. PTO  
07/25/03

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

# FEE TRANSMITTAL for FY 2003

Effective 01/01/2003, Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 1,440.00

## Complete if Known

Application Number	Not Yet Assigned
Filing Date	July 25, 2003 - Herewith
First Named Inventor	Ashish Mehta
Examiner Name	Not Yet Assigned
Art Unit	N/A
Attorney Docket No.	06005/38043A

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit Card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account

Deposit Account Number

13-2855

Deposit Account Name

MARSHALL, GERSTEIN & BORUN LLP

The Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments  
☐ Charge any additional fee(s) during the pendency of this application  
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	750	2001	375	Utility filing fee	750.00
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)					750.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
35	-20** = 15	18.00	270.00
Independent Claims	8	-3** = 5	84.00 = 420.00
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 690.00

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for ex parte reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	410	2252	205	Extension for reply within second month	
1253	930	2253	465	Extension for reply within third month	
1254	1,450	2254	725	Extension for reply within fourth month	
1255	1,970	2255	985	Extension for reply within fifth month	
1401	320	2401	160	Notice of Appeal	
1402	320	2402	160	Filing a brief in support of an appeal	
1403	280	2403	140	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,300	2453	650	Petition to revive - unintentional	
1501	1,300	2501	650	Utility issue fee (or reissue)	
1502	470	2502	235	Design issue fee	
1503	630	2503	315	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	750	2809	375	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	750	2810	375	For each additional invention to be examined (37CFR 1.129(b))	
1801	750	2801	375	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	
Other fee (specify)				1614; Claims - extra independent (over three);	
				1615 Claims - extra total (over 20)	

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$

## SUBMITTED BY

Name (Print/Type)	Gregory E. Stanton	Registration No. (Attorney/Agent)	45,127	Telephone	(312) 474-6300
Signature		Date	July 25, 2003		

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 323774801 US, in an envelope addressed to: MS Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: July 25, 2003

Signature: (Richard Zimmermann)